

NON-PUBLIC?: N  
ACCESSION #: 9508040084  
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Grand Gulf Nuclear Station, Unit 1 PAGE: 1 OF 4

DOCKET NUMBER: 05000416

TITLE: Reactor Scram Due to Main Turbine/Reactor Feed Pump Trip  
EVENT DATE: 07/03/95 LER #: 95-007-00 REPORT DATE: 07/28/95

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR  
SECTION:

50.73(a)(2)(iv), OTHER: SPECIAL REPORT

LICENSEE CONTACT FOR THIS LER:

NAME: Charles Holifield/Licensing TELEPHONE: (601) 437-6439  
Engineer

COMPONENT FAILURE DESCRIPTION:

CAUSE: SYSTEM: COMPONENT: MANUFACTURER:  
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

A reactor scram occurred at 2032 on July 3, 1995. The cause of the scram was the absence of trip indication in conjunction with the performance of the monthly high level trip functional surveillance. When the channel signal was increased to the high level setpoint a trip of the Main Turbine and both Reactor Feedwater Pumps resulted which caused a full Reactor Protection System actuation and a reactor scram.

Immediate corrective actions included an investigation of the high level trip circuitry which resulted in the replacement of blown fuses and a burnt out light bulb. Operations then depressed all three high water level trip reset pushbuttons which cleared all three amber logic lights. The monthly surveillance was then performed satisfactorily and revealed no other abnormalities. As a long term corrective action Maintenance strengthened the monthly procedure to require a verification that the fuses are not blown, that all three trip reset pushbuttons are depressed

and a verification that the trip logic lights are off prior to the start of the high level trip surveillance.

This event resulted in an automatic Emergency Core Cooling System (ECCS) discharge into the Reactor Coolant System. The ECCS injection is reportable in accordance with the Special Reporting requirements of the GGNS Technical Requirements Manual. The scram is reportable pursuant to 10CFR50.73(a)(2)(iv). This event did not impair the ability of any system to perform its intended safety function. No safety relief valves actuated during the plant transient. The health and safety of the general public were not compromised as a result of this event.

END OF ABSTRACT

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#### A. Reportable Occurrence

A reactor scram occurred on July 3, 1995, due to the automatic actuation of the Reactor Protection System (RPS) JC! while performing monthly surveillance 06-IC-1C34-M-0001, Reactor Vessel Water Level High (Level 8) MT/RFP Trip Functional Test. The scram is reportable pursuant to 10CFR50.73(a)(2)(iv). Additionally, this event resulted in an Emergency Core Cooling System (ECCS) discharge into the Reactor Coolant System as a result of a valid Engineered Safety Feature (ESF) signal and is reportable in accordance with the Special Reporting requirements of GGNS Technical Requirements Manual section 7.7.2.1.

#### B. Initial Conditions

At the time of the event, the reactor was in OPERATIONAL CONDITION 1 with reactor power at 100 percent. Reactor temperature was approximately 530 degrees F and reactor vessel water level at 36 inches. Monthly surveillance 06-IC-1C34-M-0001, Reactor Vessel Water Level High (Level 8) MT/RFP Trip Functional Test, attachment II (Channel B) was being performed. A trip existed on either the 'A' or 'C' seal-in circuit but was undetected due to blown fuses in the indicating circuit and a burnt out light bulb on the 'C' indicator.

#### C. Description of Occurrence

At 2032 on July 3, 1995, plant personnel were performing monthly surveillance 06-IC-1C34-M-0001, Reactor Vessel Water Level High (Level 8) MT/RFP Trip Functional Test. This surveillance verifies the operability of 1C34-LSH-K624A, 1C34-LSH-K624B and 1C34-LSH-K624C

which provide the two out of three logic trip of the Reactor Feed Pumps (RFPs) and the Main Turbine (MT). The 'B' channel was selected for testing first since the 'A' channel was providing level input to the feedwater level control system.

Attachment II (Channel B) of the surveillance had been started and the lights for all three channels of the RX WTR LVL HI TRIP RESET were verified to be extinguished. These lights are located just above the reset pushbuttons. When the 'B' channel signal was increased to the high level setpoint, a trip of the Main Turbine and both Reactor Feedwater Pumps resulted. The Main Turbine trip caused a RPS actuation due to a turbine stop valve closure and a turbine control valve fast closure actuation.

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High Pressure Core Spray (HPCS) BG! and Reactor Core Isolation Cooling (RCIC) BN! initiated automatically on a Level 2 signal (-41.6 inches). Level was restored to a Level 8 (+53.5 inches) by ECCS injection into the reactor vessel at which point the Level 8 signal closed the HPCS injection and RCIC steam admission valves (E22-F004 and E51-F045).

Control room operators performed immediate actions in an effort to stabilize the plant which included an attempt to reset a Reactor Feed Pump Turbine (RFPT). With no amber lights indicating the high level still sealed in it was assumed by operators that there might be a problem with the condensate system that was causing a RFPT not to reset. RCIC was placed back in service to control level between 28.0 and 53.5 inches. Once the problem with the Reactor Feed Pump/Main Turbine Trip was resolved and feedwater flow restored, level was maintained with the startup level control valve.

#### D. Apparent Cause

A root cause of the event was the absence of trip indication in conjunction with the performance of the trip functional test. This condition allowed the surveillance to be run with one channel already in the tripped condition with no visual indication of such. Although the exact cause and time of failure of the fuses and light bulb are not known, it can be assumed that it occurred sometime after the surveillance was last performed during the previous month.

#### E. Corrective Actions

Immediate Corrective Actions:

\* Maintenance investigated the Level 8 circuitry and replaced the blown fuses and burnt light bulb.

\* Operations depressed all three high water level reset pushbuttons which cleared all three amber logic lights.

\* The monthly surveillance was performed satisfactorily and revealed no other abnormalities.

Long Term Corrective Actions:

\* Maintenance has strengthened the monthly procedure to require a verification that the fuses are not blown, that all three trip reset pushbuttons are depressed and a verification that the trip logic lights are off prior to the start of the monthly high level trip surveillance.

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#### F. Safety Assessment

This event did not impair the ability of any system to perform its intended safety function. Minimum Reactor Vessel water level was recorded at -59 inches wide range which is 108 inches above the top of the active fuel. All ECCS was available to perform its safety function and HPCS did inject when Reactor Vessel water level reached -41.6 inches. No safety relief valves actuated during the plant transient. The health and safety of the general public were not compromised as a result of this event.

#### G. Additional Information

HPCS injected intermittently at a flow rate of approximately 3700 gpm. The temperature of the injection source water was approximately 120 degrees F. The vessel was at 950 psig at the time of the injection. This is the twelfth (#12) cycle of the HPCS system experienced at GGNS at power. The current value of the nozzle usage factor is still within 0.70. Report of the ECCS injection is being submitted as part of this Licensee Event Report in accordance with the Special Reporting requirements of GGNS Technical Requirements Manual section 7.7.2.1.

As a result of this event Incident Report 95-07-01 and Root Cause Analysis Report 95-19 were initiated. Energy Industry Identification System (EIIS) codes are identified in the text within brackets !.

ATTACHMENT TO 9508040084 PAGE 1 OF 1

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P.O. Box 756

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C. R. Hutchinson  
Vice President  
Operations  
Grand Gulf Nuclear Station

July 28, 1995

U.S. Nuclear Regulatory Commission  
Mail Station P1-137  
Washington, D.C. 20555

Attention: Document Control Desk

SUBJECT: Grand Gulf Nuclear Station, Unit 1  
Docket No. 50-416  
License No. NPF-29  
Reactor Scram Due to Main Turbine/Reactor Feed Pump Trip  
LER 95-007-00

GNRO-95/00087

Gentlemen:

Attached is License Event Report (LER) 95-007 which is a final report.

Yours truly,

CRH/CDH  
attachment

cc: Mr. J. E. Tedrow (w/a)  
Mr. H. W. Keiser (w/a)  
Mr. R. B. McGehee (w/a)  
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